

IN THE CLAIMS:

The following is a complete listing of the claims in this application, reflects all changes currently being made to the claims, and replaces all earlier versions and all earlier listings of the claims:

Claims 1 - 30. (Canceled).

Claim 31. (Currently Amended) A method of driving a solid image pickup device comprising a photoelectric conversion unit, a charge-voltage conversion unit for converting electric charges from the photoelectric conversion unit into voltage signals, a signal amplification means for amplifying the voltage signals generated in the charge-voltage conversion unit, a charge transfer means for transferring photoelectric charges from the photoelectric conversion unit to the charge-voltage conversion unit, and a selecting means for reading out a signal amplified by [[said]] the signal amplification means to a signal line, said method comprising:

a first transferring step of transferring a portion of the electric charges accumulated in [[of]] the photoelectric conversion unit to the charge-voltage conversion unit while a remaining portion of the electric charges accumulated in the photoelectric conversion unit is left in the photoelectric conversion unit;

a first selecting step of reading out a first signal accumulated in one unit of an accumulation period to a signal line by the selecting means;

a reset step of resetting the charge-voltage conversion unit after the first signal is read out;

a second transferring step of transferring the remaining portion of the electric charges left in [[of]] the photoelectric conversion unit during said first transferring step to the charge-voltage conversion unit;

a second selecting step of reading out a second signal accumulated in one unit of the accumulation period to the signal line by the selecting means, wherein the second signal is a signal remaining in [[the]] said first transferring step; and

an adding step of adding the first signal and the second signal read out to the signal line.

Claim 32. (Currently Amended) The method of driving a solid image pickup device according to claim 31, wherein output signals read out from the charge-voltage conversion unit following [[the]] said first transferring step and [[the]] said second transferring step are retained, respectively, and added, and a resulting summed output signal is outputted from a horizontal scan circuit to a common output line.

Claim 33. (Currently Amended) The method of driving a solid image pickup device according to claim 31, wherein after [[the]] said first transferring step and before [[the]] said second transferring step, at least one intermediate readout operation is performed by resetting the charge-voltage conversion unit and reading out an output signal amplified by the amplification means to a signal output line.

Claim 34. (Currently Amended) A solid image pickup device comprising:

a photoelectric conversion unit;

a charge-voltage conversion unit for converting electric charges from the photoelectric conversion unit into voltage signals;

a signal amplification means for amplifying the voltage signals generated in the charge-voltage conversion unit;

a charge transfer means for transferring photoelectric charges from the photoelectric conversion unit to the charge-voltage conversion unit;

a selection means for reading out a signal amplified by said signal amplification means to a signal line;

a first transferring means for transferring a portion of the electric charges accumulated in [[of]] said photoelectric conversion unit to said charge-voltage conversion unit while a remaining portion of the electric charges accumulated in said photoelectric conversion unit is left in said photoelectric conversion unit;

a first selecting means for reading out a first signal accumulated in one unit of an accumulation period to a signal line by said selecting means;

a reset means for resetting the charge-voltage conversion unit after the first signal is read out;

a second transferring means for transferring the remaining portion of the electric charges left in of said the photoelectric conversion unit by said first transferring means to said charge-voltage conversion unit;

a second selecting means for reading out a second signal accumulated in one unit of the accumulation period to the signal line by said selecting means, wherein the second signal

is a signal remaining after the first transferring means transfers; and

an adding means for adding the first signal and the second signal read out to the signal line.

Claim 35. (Currently Amended) The solid image pickup device according to claim 34, wherein [[the]] said photoelectric conversion unit is an embedded-type photodiode.

Claim 36. (Currently Amended) An image pickup system comprising:
a solid image pickup device according to 34;
an optical system for focusing a ray of light to [[the]] said solid image pickup device; and
a signal processing circuit for processing output signals from [[the]] said solid image pickup device.

Claim 37. (Currently Amended) An image pickup system comprising:
a solid image pickup device according to 34;
an optical system for focusing a ray of light to [[the]] said solid image pickup device;
a mechanical shutter for determining an exposure time of [[the]] said solid image pickup device; and
a signal processing circuit for processing output signals from [[the]] said solid image pickup device.